

CLAIMS

1. A receiver comprising:

at least one A/D converter which converts received analog signal into a digital signal;

5 a reduction signal generator which generates a random noise quantizing error reduction signal for reducing a quantizing error of the digital signal converted by the A/D converter;

10 at least one adder which adds the digital signal and the quantizing error reduction signal generated by the reduction signal generator;

at least one bit number modifier which modifies a bit number of an addition signal added by the adder; and

15 at least one low-pass filter which removes a quantizing error reduction signal included in the digital signal having a bit number modified by the bit number modifier.

2. The receiver according to claim 1, wherein the quantizing error reduction signal generated by the reduction
20 signal generator is a triangular wave signal.

3. The receiver according to claim 1, wherein the quantizing error reduction signal generated by the reduction signal generator is a signal having a high frequency band
25 as compared with a frequency band of the receiving analog

signal.

4. The receiver according to claim 1, wherein the quantizing error reduction signal generated by the reduction
5 signal generator is a rectangular wave signal having a uniform distribution.

5. The receiver according to claim 1, further comprising
at least one matched filter, which is arranged on the
10 pre-stage of the low-pass filter.

6. A receiver comprising:

at least one A/D converter which converts a receiving
analog signal into a digital signal;

15 a reduction signal generator which generates a random noise quantizing error reduction signal for reducing a quantizing error of the digital signal converted by the A/D converter;

at least one adder which adds the digital signal and
20 the quantizing error reduction signal generated by the reduction signal generator;

at least one de-spread unit which de-spreads the digital signal having a bit number modified by the bit number modifier; and

25 at least one integral processing unit which integrates

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the digital signal inverse infused by the de-spread unit.

7. The receiver according to claim 2, wherein the
quantizing error reduction signal generated by the reduction
5 signal generator is a triangular wave signal.

8. The receiver according to claim 2, wherein the
quantizing error reduction signal generated by the reduction
signal generator is a signal having an orthogonal code having
10 an orthogonal relation with a spreading code used when the
de-spread unit de-spreads the input digital signal.

9. The receiver according to claim 2, wherein the
quantizing error reduction signal generated by the reduction
15 signal generator is a signal having a high frequency band
as compared with a frequency band of the receiving analog
signal.

10. The receiver according to claim 2, wherein the
20 quantizing error reduction signal generated by the reduction
signal generator is a rectangular wave signal having a
uniform distribution.